ENERGY TIDBITS

May 2004

Process Heating Best Practices seminar will be held on May 20 at the Hyatt Regency O'Hare in Rosemont, Illinois. http://www.energetics.com/savingmay04.html.

Penn State engineers have shown that a microbial fuel cell (MFC) can generate electricity while simultaneously cleaning the wastewater that you flush down the drain or toilet. The Penn State experiments have produced between 10 and 50 milliWatts of power per square meter of electrode surface or about 5% of the amount needed to run one mini-Christmas tree light, while removing up to 78% of organic matter as measured by biochemical oxygen demand (BOD). Microbial fuel cells work through the action of bacteria which can pass electrons to an anode, the negative electrode of a fuel cell.

Wind Generator Workshop will be held in Dimondale on May 13-15. Learn how to install a Whisper 500 watt wind generator on a Southwest Wind tilt-up tower. Workshop will be split between the classroom and hands-on at the construction site. For more information: 517-646-6269, http://www.glrea.org, or info@glrea.org.

Calvin College new 5,270 sq.ft. Vincent & Helen Bunker Interpretive Center will be one of only a handful of buildings in West Michigan to qualify for a LEED gold rating. Many of the building materials used -including paneling, insulation and interior trim - are made of recycled materials. Waste is handled by chemical composting toilets. Water from the sinks will filter through a large, indoor planter filled with water plants before it recycles into the ponds. On days when the weather permits, the center's windows will open automatically to regulate the center's temperature. The building will draw 60% of its power from the sun. A large photovoltaic array on the building's roof was conceived by a student research committee. When the original budget failed to cover the solar project, senior engineering student Jordan Hoogendam wrote a grant proposal to the Energy Office. The resulting $91,000 grant provided the photovoltaic panels and an instrument package, which Hoogendam and his team installed as their senior design project.

Alternative Energy: Training the Workforce of the Future will be held at Wayne State U. on June 2, 7:30-3:30. http://www.eng.wayne.edu/aetconference

Wind Power lesson is designed for physical science, earth science, or environmental science classrooms grades 9-12. http://www.pbs.org/now/classroom/wind.html.

Industrial Assessment Center Database provides countless examples of the energy savings that have occurred in relation to IAC assessments. The database at Rutgers University recently underwent a major upgrade. If you are trying to justify a project, investigate your plant's potential, or compare your plant to similar plants, the database is a great resource. Users can search the database in a variety of ways including by improvement project, industry, location, project costs and project savings. Search results outline basic plant statistics and generate a list of improvement projects. The project list gives a description of each project and outlines costs, savings, payback, and project implementation status. http://iac.rutgers.edu/database/main.php

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Exploring Your Alternative Energy Options will be held at Upland Hills Ecological Awareness Center on May 15, 1:00-5:00 PM. 248-693-1021 or uheac@earthlink.net

GE Energy has acquired AstroPower, a leading manufacturer of solar electric products. With this agreement, solar joins wind, hydro and other renewable energy technologies now in the GE Energy portfolio. The company entered the wind power industry in 2002 with the acquisition of certain assets of Enron Wind, and since then GE's wind energy operations have grown into a $1.3 billion business.

Hydrogen Workshop took place in Lansing on March 23. Presentations for that meeting are posted to: http://www.sentech.org/HydrogenPowerRegionalWorkshop_MI_FollowUp.htm

McKenzie Bay has responded to a request for qualifications for installing wind turbines on top of the proposed Freedom Tower that will replace the World Trade Center in New York City. The company has lined up almost 20 partners to implement this and other potential projects. McKenzie Bay has proposed a 250-foot "vertical wind farm" of 30 100-kilowatt wind turbines in five tiers on top of the skyscraper. Published reports have indicated the wind turbines could supply about 20 percent of the building's energy needs. The company also proposed installing its WindStor system with vanadium-based storage batteries that would provide the Freedom Tower with a backup power source. McKenzie Bay is proposing to pay for the installation and sell the electricity to the building's owners. http://www.detnews.com/2004/business/0404/22/c02-130191.htm

HOMER is a computer model that simplifies the task of evaluating design options for both off-grid and grid-connected power systems for remote, stand-alone, and distributed generation applications. HOMER's algorithms allow you to evaluate the economic and technical feasibility of a large number of technology options and to account for variation in technology costs and energy resource availability. http://www.nrel.gov/homer/

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